that most HIV-infected persons are currently asymptomatic. Primary care providers are in a position to identify persons who may benefit from the prophylactic use of zidovudine by offering HIV testing to their patients. The Food and Drug Administration has recently approved the use of zidovudine therapy (500 mg per day in five 100-mg doses) in persons with CD4 cell counts below 0.5×10^9 per liter. Patients receiving 500 mg per day of zidovudine should be monitored monthly with complete blood counts. Hemoglobin levels of less than 4.96 mmol per liter (8 grams per dl) or neutropenia, or both, indicate serious hematologic complications and may require discontinuation of the medication or a reduction in medication dose.

Questions remain regarding the long-term use of prophylactic zidovudine. The long-term side effects, the impact on survival, and the clinical significance of possible drug resistance are not known. Despite these uncertainties and the relatively high cost of zidovudine therapy, the minimal side effects with a 500-mg-per-day dose and the apparent delay in disease progression to AIDS make the use of zidovudine prophylaxis a serious consideration for asymptomatic HIV-infected persons with CD4 lymphocyte counts below 0.5×10^9 per liter.

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Advances of the United States Preventive Services Task Force in Health Promotion and Disease Prevention

HEALTH PROMOTION and disease prevention are important aspects of family practice. Over the years, many opinions and recommended guidelines have been promulgated, but it has always been left up to individual practitioners to decide which interventions to use. In 1984 the US Department of Health and Human Services convened a special working group, the US Preventive Services Task Force. This group worked collaboratively with the Canadian Task Force on the Periodic Health Examination, which had previously done extensive work in the area. The result of this collaborative effort is the first set of truly comprehensive guidelines on the subject: the *Report of the US Preventive Services Task Force: Guide to Clinical Preventive Services.*

This guide synthesizes four years of extensive review of existing medical literature and interviews with numerous experts on preventive services. It contains recommendations on 169 screening, counseling, and immunization interventions for the prevention of 60 different common illnesses and conditions. Among the topics covered are cholesterol, coronary artery disease, breast and other cancers, prenatal disorders, nutrition, low back injury, dental disease, childhood and adult immunizations, chemoprophylaxis after exposure to various infections, smoking, alcohol abuse, and motor vehicle injuries.

The scientific basis for each intervention is evaluated in the following areas: "burden of suffering" (incidence, prevalence, morbidity, and mortality); "efficacy of screening tests" (sensitivity, specificity, predictive value, and reproducibility); and "effectiveness of early detection" (availability of "clinical interventions which can prevent or delay progression of the disorder"). For example, in the area of colorectal cancer, the task force neither endorses nor discourages screening, noting that despite the high burden of suffering, the efficacy of available screening methods is suboptimal and the effectiveness of early detection is not conclusively proved. It recommends screening for high-risk persons.

In other controversial areas, the task force also takes a middle-of-the-road position. In contrast to the 1988 recommendations of the National Cholesterol Education Program Expert Panel in which cholesterol screening is recommended every five years for all adults older than 20 years, the task force's recommendation is for "periodic screening" of middle-aged men. The task force mentions the expert panel's recommended frequency of every five years and states that it may be "clinically prudent" to screen others as well. The task force's "suggested threshold" for drug therapy is higher than the 1988 panel's recommendations, namely, a cholesterol level of 6.21 mmol per liter (240 mg per dl) in high-risk patients and 6.85 mmol per liter (265 mg per dl) in patients with no risk factors, versus 5.17 mmol per liter (200 mg per dl) and 6.21 mmol per liter, respectively. The task force's reasoning is that the effect on coronary artery disease of drug therapy in persons other than middle-aged men with levels of 6.60 to 6.85 mmol per liter (255 to 265 mg per dl) has not yet been proved; therefore, the potential risks and costs are not justified.

In the area of breast cancer screening, the task force's recommendations are also slightly different from previously published guidelines. In contrast to the 1987 and 1988 recommendations of the American Cancer Society and the National Cancer Institute, the task force recommends annual breast examination for all women beginning at age 40 and mammography every one to two years beginning at age 50. The recommendation for Pap testing is similar to the 1988 consensus statement adopted by the American Cancer Society, the American Academy of Family Physicians, and others, except for the addition of a recommended discontinuation at age 65 in women with previously normal Pap smears.

The recommended use of all of the interventions is summarized in a series of tables grouped according to age, sex, and other risk factors. Each table is appended with footnotes that detail the high-risk conditions for which certain interventions should be applied. Also listed in each table are the leading causes of death for each group, such as motor vehicle crashes, homicide, and suicide in teenagers; additional preventive services to be considered; and items to "remain alert for"—such as depression, abuse and neglect, and dental disease in the elderly.

Several important conclusions and implications emerged from the task force's review of existing evidence. First is that the most important contributors to preventable morbidity and mortality are the personal health behaviors of smoking, alcohol use, poor nutrition, and physical inactivity. The implication of this is that interventions which address these behaviors, namely counseling and patient education, may have a more valuable effect than the conventional ordering of tests. Further, as the locus of responsibility for personal health

practices necessarily shifts onto patients, physicians will need to use appropriate communication skills to help empower patients to change their behaviors.

Finally, the task force's review pointed out the inadequacy of existing data. Either studies were completely lacking in some areas, or existing studies were nonconclusive due to improper study design. This points out a vital area of research in which family practice could make a significant difference. The task force guide can be obtained by calling 1-800-638-0672 and asking for publication No. 97913-0.

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Pap Smear Update—The Bethesda (Nomenclature) System

THE PAPANICOLAOU smear deserves credit for the significant decline in the incidence of invasive cervical cancer in screened populations. Despite the wide adoption of this screening tool in the United States since its introduction in the 1940s, however, 7,000 women per year continue to die of this theoretically preventable disease. Related Pap smear issues currently being studied and reported in the literature include risk factors for cervical carcinoma (including human papillomavirus); the cost-effective frequency of screening (the US recommendation for every one to three years is related to risk factors and personal Pap smear history); improving the access to screening for low-income, high-risk populations; specimen collection techniques, such as cytobrush for nonpregnant endocervical cell sampling; laboratory quality assurance, including uniform and clinically relevant interpretation and reporting of results; and the appropriate clinical management of inadequate and abnormal specimens.

In December 1988, the National Cancer Institute convened 51 experts from the disciplines of pathology, cytology, and obstetrics and gynecology in Bethesda, Maryland, to address the last two issues. The participants unanimously agreed to view the Pap smear report as a medical consultation (improved by adequate clinical data) and to adopt the Bethesda System as the preferred nomenclature for cervical and vaginal cytopathology reporting.

The Bethesda System introduces two new, inclusive, descriptive terms: *low-grade* and *high-grade squamous intraepithelial lesion.* Previous nomenclatures, felt to be nonspecific and not reproducible, have been absorbed into the two larger categories. Low-grade squamous epithelial lesion is the new designation for the former mild dysplasia, cervical intraepithelial neoplasm, or CIN 1, and cellular changes associated with human papillomavirus. High-grade squamous epithelial lesion encompasses *moderate dysplasia* to *carcinoma in situ,* or CIN 2 to CIN 3. *Atypia* is now used to describe only changes of undetermined significance—that is, not inflammation.

The new report format would include the following:

- A statement of specimen adequacy—satisfactory, less than optimal, or unsatisfactory;
- A general categorization of diagnosis—within normal limits or other—to facilitate clinical triage; and
- A descriptive diagnosis—infection and type, reactive or reparative changes, epithelial cell abnormalities, nonepithelial malignancy, hormonal evaluation, or other.

When results are not within normal limits, or when specimens are unsatisfactory, the report should include clinical recommendations for follow-up by the reporting cytologist.

The Bethesda System attempts to clarify the Pap smear screening diagnosis and to exploit the consultant role of the cytologist. The objective is to facilitate the appropriate clinical investigation and early intervention for which Pap smear screening is intended.

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Nonpharmacologic Management of Hypertension

MUCH OF THE IMPETUS for promoting nondrug approaches to control blood pressure stems from the risks associated with medication use, especially among mildly hypertensive patients. This also presents an opportunity to modify associated risk factors in susceptible persons. The 1988 Report of the Joint National Committee on the Detection, Evaluation and Treatment of High Blood Pressure recommended that nonpharmacologic approaches be used both as definitive intervention and as an adjunct to drug therapy.

The recommendation to reduce sodium intake has become a practice standard for blood pressure control. The average American diet contains about 10 to 20 grams of salt per day (170 to 350 mEq of sodium). Moderate sodium restriction has been shown to reduce systolic blood pressure by an average of about 10 mm of mercury and the diastolic pressure by about 5 mm of mercury. It is important to note that the effect of this restriction is not universal. Some patients—for example, African Americans and the elderly—are more salt-sensitive than others.

The incidence of hypertension among obese persons is 50% greater than among those with normal body weight. In past studies, weight loss has resulted in a substantial lowering of blood pressure.

Controversy exists regarding the role of low levels of potassium, magnesium, and calcium in the development and maintenance of hypertension. Nevertheless, it would be prudent to maintain adequate levels of these important cations.

Vegetarians and persons with a diet high in polyunsaturated fats have been shown to have lower blood pressures than those with a diet high in saturated fats and low in polyunsaturated fats. Recently it was shown that ingesting 50 ml of fish